

FLEXIBLE INTERCONNECT STRUCTURES FOR ELECTRICAL DEVICES AND LIGHT SOURCES INCORPORATING THE SAME

Abstract of Disclosure

A flexible interconnect structure allows for rapid dissipation of heat generated from an electrical device that includes light-emitting elements, such as light-emitting diodes ("LEDs") and/or laser diodes. The flexible interconnect structure comprises: (1) at least one flexible dielectric film on which circuit traces and, optionally, electrical circuit components are formed and at least a portion of which is removed through its thickness; and (2) at least a heat sink attached to one surface of the flexible dielectric film opposite to the surface on which circuit traces are formed. The flexible interconnect structure can include a plurality of such flexible dielectric films, each supporting circuit traces and/or circuit components, and each being attached to another by an electrically insulating layer. Electrical devices or light sources having complex shapes are formed from such flexible interconnect structures and light-emitting elements attached to the heat sinks so to be in thermal contact therewith.

Figures